

CLAIMS

1. A weldable ring stud fastener comprising:
 - a fastener head having a first head thickness;
 - an annular weldment area having a second head thickness, said second head thickness being less than the first head thickness, said annular weldment area having a first exterior radius and said head has an exterior wall having a second exterior radius equal to the first exterior radius;
 - a solid cylindrical body having an exterior surface, a portion of the exterior surface being threaded.
2. The weldable fastener according to Claim 1 wherein said shank comprises a weakened section position adjacent to said head.

3. A weldable ring stud fastener comprising:

 a fastener head having a first head thickness greater than 1.5 mm;
 an annular weldment area having a second head thickness, the second head thickness is about 20% to about 35% of the first thickness, said annular weldment area having a first exterior radius and said head has an exterior wall having a second exterior radius equal to the first exterior radius;
 a solid cylindrical body having an exterior surface having an exterior radius less than the first exterior radius, a portion of the exterior surface being threaded.

4. An automotive, stud to structure construction comprising:

 a metal laminate comprising a polymer layer;
 a fastener head having a first head thickness and a web portion;
 an annular weldment area having a second head thickness, said second head thickness being less than the first head thickness, said annular weldment area having a first exterior radius and said head has an exterior wall having a second exterior radius equal to the first exterior radius;
 a solid cylindrical shank having an exterior surface, a portion of the exterior surface being threaded;
 an annular weldment disposed between and coupling the weldable fastener to the metal laminate.

5. The stud to structure construction according to Claim 4 configured such that the shank has a first failure load, and the web has a second failure load greater than the first failure load and wherein the annular weldment has a third failure load greater than the first failure load.

6. The stud to structure construction according to Claim 4 wherein the laminate comprises first and second metallic layers, said polymer layer being disposed between the first and second layers.

7. The stud to structure construction according to Claim 4 wherein the weldment is partially disposed between the first and second metallic layers.

8. A weld stud comprising:

 a longitudinally elongated solid threaded shank;

 a laterally enlarged head extending from an end of the shank, said head having a first thickness is greater than 1.5 mm; and

 a substantially annular section longitudinally extending from the head opposite the shank, the annular section having a second thickness being less than the first thickness; and

 wherein a welding edge of the annular section is substantially flat along a lateral plane substantially parallel to a lateral plane of the head, prior to welding and wherein said head has an exterior wall having a first exterior radius and said annular weldment area has a second exterior radius equal to the first exterior radius.

9. The weldable fastener according to Claim 8 wherein said shank comprises a weakened section position adjacent to said head.

10. The weldable fastener according to Claim 8 wherein the second thickness is about 20% to about 35% of the first thickness.